however, the procedure can be reversed if desired, with desiccant and/or inert fluorocarbon **30** and **31** deposited after formation of perimeter seal **21**. When a desiccant is employed for **30** and **31** and deposited prior to the formation of perimeter seal **21**, a desiccant solution is patterned on cover sheet **21** and heated in an evacuated chamber to remove liquids. The remaining solid is desiccant **30** and/or **31**. When an inert fluorocarbon is used as one of **30** and **31** or as a portion of **30** and **31**, the desiccant must be deposited and liquids removed prior to the deposition of the inert fluorocarbon. It is also contemplated that only inert fluorocarbons are used as a barrier medium without the use of a desiccant. Once cover sheet **20** has been patterned with desiccant and/or inert fluorocarbon **30** and/or **31**, perimeter seal **21** is formed as described previously using U.V. curable epoxy.

Cover sheet **20** is sealed to the substrate of organic EL apparatus **10** to package EL device **13** in the cavity by first depositing the epoxy by patterning or printing techniques as described above to form first and second seals **22** and **23**. The organic EL apparatus and the cover are pressed together such that the epoxy of the first and second seals engages and seals with the glass substrate, bounding the EL device in the cavity. To complete the encapsulation of the EL device, the method further includes the step of curing the epoxy. If the epoxy is comprised of an ultraviolet light curable epoxy, the step of curing further includes exposing the epoxy to ultraviolet light for a predetermined duration and a predetermined intensity. Because one or both the substrate of EL apparatus and the cover sheet of the cover are preferably constructed of transparent material, exposure of first and second seals to ultraviolet light for curing may be carried through one or both of the substrate and the cover sheet.

An important benefit of the preferred glass-to-glass encapsulation of the EL device as set forth is the ability to expose the perimeter seal to ultraviolet light for curing in directions from at least one of either the substrate of EL apparatus and the cover sheet of the cover.

Regarding FIG. **4**, illustrated is a sectional view of an example of a press **60** for pressing one of the cover sheet and the organic EL apparatus to seal the cover sheet with organic EL apparatus at the perimeter seal. Press **60** is generally comprised of a support **61** mounted with a supporting structure **62**. Supporting structure **62** is operative for moving support **61** in reciprocal directions as indicated generally by the double arrowed line A. In a specific embodiment, supporting structure **62** is comprised of a base **65** and an a cylinder assembly **66** extending outwardly therefrom and terminating in supporting engagement with support **61** via, in this specific example, a boss **67**.

With continuing reference to FIG. **4**, support **61** is generally comprised of a body **70** including a lower surface **71** directed toward base **65** and an opposing upper surface **72** having a groove or recess **73** formed therein for receiving and supporting a cover **74**. Cover **74** includes the same physical constitutions as cover **11** discussed previously in combination with FIGS. **1–3** including a glass cover sheet **75** shown supported in recess **73** and an upwardly directed perimeter seal **76** bounding a cavity **79**. Because cover **74** includes the same physical constitutions as cover **11**, further details of cover **74** will not be discussed in further detail. It should also be noted that recess **73** in body **70** can be configured to receive, in addition to or instead of cover **11**, any preferred sealing structure, such as glass, plastic, stamped metal foils, plastic circuit boards (PCB), ceramic cans, machined metal cans, or semiconductor substrates.

Press **60** further includes a plurality of upstanding pogo-pins **77** supported by support **61** for reciprocating movement as generally indicated by the double arrowed line B and extending outwardly from upper surface **72** and terminating with free ends **78** for engaging and supporting a frame **80** which carries a glass substrate **81** carrying or otherwise supporting an EL device **82** in spaced-apart and in substantial opposition to cover **74** and, more particularly, to cavity **79**. Substrate **81** and EL device **82** are substantially identical to EL apparatus **10** discussed previously in combination with FIG. **1**, further details of which will not discussed. Press **60** still further includes a stationary ceiling **83** mounted in substantial opposition to upper surface **72** of support **61**, ceiling **83** being preferably constructed of optical glass or other substantially transparent material which will transmit light radiation between the wavelengths of approximately 200 nm to 500 nm.

In operation, and with cover **74** and substrate **81** mounted with press **60** as previously described, cylinder assembly **66** may be actuated for moving support **61** toward ceiling **83** to engage glass substrate **81** with ceiling **83**. Upon engagement of glass substrate **81** with ceiling **83**, pogo pins **77** will permit frame **80** and substrate **81** to move toward cover **74** to pressingly engage and seal perimeter seal **76** against glass substrate **81** packaging or otherwise encapsulating EL device **82** in cavity **79**. After engagement, the ultraviolet light-curable adhesive comprising perimeter seal **76** can be cured by ultraviolet light directed through ceiling **83** and glass substrate **81** as indicated by the arrowed lines C.

In summary, the present invention proposes a glass-to-glass encapsulation scheme including a thin film or layer of desiccant and/or inert fluorocarbon in combination with a UV light-cured perimeter seal to bound an EL device of EL apparatus in an environmentally controlled cavity. The desiccant and the glass-to-glass package enhances substantially the operating lifetime of EL apparatus.

The present invention has been described above with reference to a preferred embodiment. However, those skilled in the art will recognize that changes and modifications may be made in the described embodiments without departing from the nature and scope of the present invention. Various changes and modifications to the embodiment herein chosen for purposes of illustration will readily occur to those skilled in the art. To the extent that such modifications and variations do not depart from the spirit of the invention, they are intended to be included within the scope thereof which is assessed only by a fair interpretation of the following claims.

Having fully described the invention in such clear and concise terms as to enable those skilled in the art to understand and practice the same, the invention claimed is:

What is claimed is:

1. Packaged electroluminescent apparatus, comprising: an organic electroluminescent device carried by a transparent substrate; a cover; a perimeter seal, defined by substantially concentric first and second cured adhesive rings, the perimeter seal bounding the organic electroluminescent device in a cavity, wherein the perimeter seal sealingly engages the cover with the transparent substrate; and at least one of a desiccant and an inert fluorocarbon liquid disposed between the first and second cured adhesive rings of the perimeter seal and is inboard of the second cured adhesive ring.

2. The packaged electroluminescent apparatus of claim **1**, wherein the perimeter seal is further comprised of substantially concentric first and second cured epoxy adhesive rings.

3. The packaged electroluminescent apparatus of claim **2**, wherein the cured epoxy adhesive rings are further comprised of substantially concentric first and second ultraviolet light-cured epoxy adhesive rings.